The Grid for Patriot

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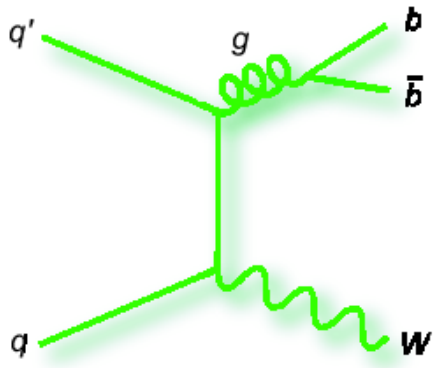

Patriot

Physics Analysis Tools Required to Investigate Our Theories

Basic Idea

- Generate files of events using Monte Carlo for interesting and complicated Standard Model processes
- Make the files available to both experiments (e.g. using SAM)
- Serve as a look-up table for the backgrounds to New Physics searches
- Prepare for the LHC era (CMS, ATLAS interactions)

Event Generation

- Most interesting predictions of the Standard Model are the most difficult to calculate
  - e.g. To understand Top Anti-top production, we need an understanding of W boson + 4, 5, 6 jets
  - Roughly, each additional jet increases computation time and disk storage by a factor 5-10
- Multi-Channel integration allows the BIG problem to be calculated in small pieces
  - GRID facilities are critical here
  - Want easy access to enstore
  - I need help calculating my GRID requirements

File Delivery

- The success of these calculations for Tevatron physics has sparked the interest of the LHC community
- How to deliver Monte Carlo datasets to BOTH collaborations (and/or other interested parties)?
  - GRID can connect `stken` to CERN
  - *IS* this a proper use of the GRID?

Other Possible Directions

- We should be making HEP data available to the world like the Sloan Digital Sky Survey
- This is a hard problem, but that is not an excuse
- Here, the data is:
  1. Patriot calculations
  2. Run I data (Run I Preservation Project)
  3. Run II data
- NOTE, the JADE collaboration has reformed and is reanalyzing its data, proving this can be done